

SYSTEM AND METHOD FOR EXAMINING MASK PATTERN FIDELITY**ABSTRACT**

A method and system is disclosed for examining mask pattern fidelity. First, a mask picture is generated from a first mask with a first OPC model applied to a mask design thereon. The mask picture is then converted into a mask based simulation file. A first simulation is conducted under a first set of predetermined lithography processing conditions using the converted simulation file to generate one or more files of a first set representing wafer photo resist profile thereof. On the other hand, a mask design in a database mask file is identified which was used for generating the first mask. The first OPC model is applied to the mask design in the database mask file. A second simulation is then conducted under the first set of predetermined lithography processing conditions using the OPCed mask design to generate one or more files of a second set representing wafer photo resist profile thereof. The first and second sets of files are then evaluated together for the purpose of inspecting mask fidelity.